

STACKING COOLER

TECHNICAL FIELD OF THE INVENTION

5 [0001] This invention pertains to a cooler for chilling and displaying beverages and other merchandise.

BACKGROUND OF THE INVENTION

[0002] Movable or portable ice-filled coolers are
10 useful in a retail environment for chilling beverages and other items while putting them within easy reach of a consumer. A problem with coolers is that that sometimes a consumer has to dig around in the ice to find the desired product from among several different product brands. Even
15 when a cooler contains only one product brand, that product may be completely covered by the ice and out of view requiring the consumer to dig around in the ice to find it. Accordingly, it will be appreciated that it would be highly desirable to have cooler that chills products while keeping
20 the products visible and accessible. It is also desirable to have a cooler that can be easily moved about.

[0003] In convenience stores, chilled beverages may be impulse purchase items that must be placed in or along the pathway of the consumer. Such locations are the end of
25 aisle, open space near the check-out, and in the aisle itself. Waist high cylindrical coolers are often used in such locations but cannot be seen from all directions because store shelving obscures the view. It is desirable to have a cooler that places product at eye level and
30 positions the beverage containers so that they are visible from several directions.

SUMMARY OF THE INVENTION

[0004] The present invention is directed to overcoming one or more of the problems set forth above.

5 Briefly summarized, according to one aspect of the present invention, a cooler has a plurality of units that stack atop one another. Each stackable unit comprises inner and outer shells. The outer shell has a bottom panel, opposed side panels connected to both the bottom panel and opposed
10 end panels connected to the bottom and side panels. One of the side panels defines a drain. The inner shell has a bottom panel, opposed side panels connected to the bottom panel and opposed end panels connected to the bottom and side panels. One of the side and bottom panels defines a
15 drain opening. The bottom panel of the inner shell is spaced from the bottom panel of the outer shell creating an insulating air space therebetween.

[0005] To facilitate stacking, a pair of opposed ledges are formed in opposed top portions of the inner and
20 outer end panels, and a pair of opposed legs extend downward from the bottom panel of the outer shell adjacent the opposed end panels of the outer shell. The legs rest on the ledge for stacking. Stacking the units one atop the other allows the drain of an upper unit to dispense water
25 to a lower unit for easier removal of spent liquid. In another embodiment, stacking is accomplished using openings in one unit that mate with protrusions in another unit.

[0006] The cooler can be equipped with a base member that has a sidewall with an internal ledge thereon
30 for receiving a stackable unit. The sidewall also has upper and lower portions with the upper portion overhanging

the lower portion. Wheels are supported on a bottom wall making the cooler mobile for easy positioning on the merchandise floor.

[0007] According to another aspect of the present invention, a cooler comprises a bottom tub having a bottom panel, opposed front and rear tub panels attached to the bottom panel and opposed left and right end panels attached to the bottom panel and to the front and rear tub panels. The left and right end panels extend upward from the bottom panel to an elevation above the front and rear panels. The left and right end panels each have opposed side edges extending upward and outward away from the front and rear tub panels. The left and right end panels extend the tub upward above the front and rear tub panels.

[0008] A front connecting panel is attached to a front edge of the left end panel and a front edge of the right end panel. A front bridging panel has end portions attached to the left and right end panels and has side edges attached to the front connecting panel and the front tub panel. A rear connecting panel is attached to a rear edge of the left end panel and a rear edge of the right end panel. A rear bridging panel has end portions attached to the left and right end panels and has side edges attached to the rear connecting panel and the rear tub panel.

[0009] The cooler also has a top tub that is identical to the bottom tub and is attached to the bottom tub. A drain is positioned to drain the top tub into the bottom tub so that water from melting ice cascades from an upper tub down into a lower tub.

[0010] These and other aspects, objects, features and advantages of the present invention will be more

clearly understood and appreciated from a review of the following detailed description of the preferred embodiments and appended claims, and by reference to the accompanying drawings

5

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Figure 1 is a front perspective view of a preferred embodiment of a cooler with three stackable units and a base unit with wheels according to the present invention.

10

[0012] Figure 2 is an exploded front perspective view of the stackable units of Figure 1.

[0013] Figure 3 is a rear view of the cooler of Figure 1.

15

[0014] Figure 4 is a diagrammatic cross-sectional view of one cooler unit taken along line 4-4 of Figure 2.

[0015] Figure 5 is a front perspective view of another preferred embodiment of a cooler with three stackable units and a base unit with wheels according to the present invention.

20

[0016] Figure 6 is an exploded front perspective view of stackable units of similar to Figure 1 but illustrating another preferred embodiment.

[0017] Figure 7 is a diagrammatic cross-sectional view of one cooler unit taken along line 7-7 of Figure 6.

25

[0018] Figure 8 is a rear perspective view of another preferred embodiment of a cooler with three stackable units and a base unit with a curved sidewall.

30

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] Referring to Figures 1-4, a cooler 10 is

comprised of a base unit 12 and a number of stackable units 14 that stack atop one another. Base unit 12 has a sidewall with an internal ledge 16 thereon for receiving the one of the stackable units 14. The sidewall has upper and lower portions 18, 20 with the upper portion 18 overhanging the lower portion 20. A bottom wall 22 is attached to lower sidewall portion 20. Bottom wall 22 may have lateral or transverse reinforcing ribs 26. Wheel means 24, such as actual wheels, coasters or rollers, are attached to the bottom wall.

[0020] Each stackable unit 14 has an outer shell 28 and an inner shell 30. Outer shell 28 has a bottom panel 32, opposed side panels 34, 36 connected to bottom panel 32 and opposed end panels 38, 40 connected to the bottom and side panels. Side panel 36 defines a drain 42. A tube or drain hose 43 may extend from the drain opening of the bottommost stackable unit instead of a spigot.

[0021] Inner shell 30 has a bottom panel 44, opposed side panels 46, 48 connected to bottom panel 44 and opposed end panels 50, 52 connected to the bottom and side panels. One of the side and bottom panels define a drain opening or openings 54. The bottom panel 44 of the inner shell 30 is spaced from the bottom panel 32 of the outer shell 28 creating an insulating air space therebetween. The inner shell 30 is preferably spaced from the outer shell 28 by an insulating air space. The air space between the bottom panels 32, 44 can vary from one stackable unit to the next to accommodate containers of different volumes and dimensions.

[0022] Top portions of inner shell 30 and outer shell 28 are joined together along their top edges or with

a connecting panel forming opposed end panels of the stackable unit. A pair of opposed ledges 56, 58 are formed in the opposed end panels to facilitate stacking. A pair of opposed legs 60, 62 extend downward from the bottom panel 44 of outer shell 28 adjacent opposed end panels 50, 52 of outer shell 28. The ledges 56, 58 and legs 60, 62 form a means for stacking one unit with another.

[0023] The end panels 50, 52 of outer shell 28 each have bottom, middle and top portions. The bottom portion preferably has a rectangular configuration. The middle portion extends upward from the bottom portion and has a greater width than the bottom portion. The top portion has an isosceles trapezoid configuration with the base or long parallel side of the trapezoid adjoining the middle portion.

[0024] Similarly, the end panels 38, 40 of inner shell 30 each have bottom, middle and top portions. The bottom portion preferably has a rectangular configuration. The middle portion extends upward from the bottom portion and has a greater width than the bottom portion. The top portion has an isosceles trapezoid configuration with the base or long parallel side of the trapezoid adjoining the middle portion. The end panels 50, 52 of outer shell 28 may be of the same dimensions as the end panels 38, 40 of inner shell 30 but do not necessarily have to be the same.

[0025] Each unit includes a pair of opposed internal ledges 64, 66 with each ledge located at the junction of the base panel 32, and one of the inner side panels 46, 48. Top portions of each of the opposed side panels 46, 48 preferably have an elevation less than the elevation of the base of the isosceles trapezoid of the top

portions of the end panels.

[0026] Referring to Figures 5-7, a cooler has a lower tub 64 having a bottom panel 66, opposed front and rear tub panels 68, 70 attached to bottom panel 66 and
5 opposed left and right end panels 72, 74 attached to bottom panel 66 and to the front and rear tub panels 68, 70. The left and right end panels 72, 74 extend upward from bottom panel 66 to an elevation above the topmost portions of front and rear panels 68, 70. The left and right end
10 panels 72, 74 each have opposed side edges extending upward and outward away from front and rear tub panels 68, 70. Left and right end panels 72, 74 extend tub 64 upward above front and rear tub panels 68, 70.

[0027] A front connecting panel 76 is attached to a
15 front edge of left end panel 72 and a front edge of right end panel 74. A front bridging panel 78 has end portions attached to left and right end panels 72, 74 and has side edges attached to front connecting panel 76 and front tub panel 68. Similarly, a rear connecting panel 80 is
20 attached to a rear edge of left end panel 72 and a rear edge of right end panel 74. A rear bridging panel 80 has its end portions attached to left and right end panels 72, 74 and has its side edges attached to rear connecting panel 80 and rear tub panel 70.

[0028] An upper tub 82 has a bottom panel 84, opposed front and rear tub panels 86, 88 attached to bottom panel 84 and opposed left and right end panels 90, 92 attached to bottom panel 84 and to front and rear tub panels 86, 88. Left and right end panels 90, 92 extend
30 upward from bottom panel 84 to an elevation above the topmost portions of front and rear panels 86, 88. Left and

right end panels 90, 92 each have opposed side edges extending upward and outward away from front and rear tub panels 86, 88. Left and right end panels 90, 92 extend tub 82 upward above front and rear tub panels 86, 88.

5 [0029] A front connecting panel 94 is attached to a front edge of left end panel 90 and a front edge of right end panel 92. A front bridging panel 96 has end portions attached to left and right end panels 90, 92 and has side edges attached to front connecting panel 94 and front tub
10 panel 86. A rear connecting panel 98 is attached to a rear edge of left end panel 90 and a rear edge of right end panel 92. A rear bridging panel 100 has its end portions attached to left and right end panels 90, 92 and has its side edges attached to rear connecting panel 98 and rear
15 tub panel 88.

[0030] A drain 102 is positioned to carry water from melting ice in upper tub 82 to lower tub 64, to a drain of a plumbing system or other location for recycling or disposal. In its simplest form drain 102 may be an
20 opening through which water flows or drips out of the upper tub into the lower tub. The drain may incorporate a tube or hose for delivering water from one tub to another. When the drain is located in an end panel or bottom panel, a tube or hose is inconspicuous. In some instances where
25 several units are stacked one atop the other, it may be desirable to use the bottom tub solely for collecting water. This is particularly useful where there is no building drain nearby and running a hose is not possible or practicable. Using the bottommost tub in such a manner is
30 acceptable where the object is to have the product at eye level. When product is placed in the lowermost tub, it can

be chilled from the water cascading from the upper tubs.

[0031] The left and right end panels 90, 92 have top edges with openings 104, 106 formed therein and bottom edges with protrusions 108, 110 extending downward

5 therefrom. Protrusions 108 is received in openings 104 while protrusions 110 are received in openings 106. The protrusions and openings thus form a means for attaching one tub atop another tub.

[0032] Wheel means 112 are attached to the bottom
10 panel 66 of lower tub 64 so that the cooler can be easily moved about to position it at the desired location, to refill it with product or ice, or to empty accumulated water.

[0033] Referring to Figure 8, a cooler 114 is
15 comprised of a base unit 116 and a number of stackable units 118 that stack atop one another. Base unit 116 has a sidewall 120 that curves inward creating a space for a drain bucket. Stackable units 118 have cascading drains with the bottom most unit draining into a drain bucket
20 positioned under it in the curved sidewall 120. The curved sidewall makes removing spent water easy when it is desired to keep the cooler fixed in position and a drain hose is not practical or desired.

[0034] It can now be appreciated that a cooler has
25 been presented which has a plurality of units that stack atop one another. Each stackable unit comprises inner and outer shells. The outer shell has a bottom panel, opposed side panels connected to the bottom panel and opposed end panels connected to the bottom and side panels. One of the
30 side panels defines a drain. The inner shell is similarly constructed. The bottom panel of the inner shell is spaced

from the bottom panel of the outer shell creating an insulating air space therebetween.

[0035] To facilitate stacking, a pair of opposed ledges are formed in opposed top portions of the inner and outer end panels, and a pair of opposed legs extend
5 downward from the bottom panel of the outer shell adjacent the opposed end panels of the outer shell. The legs rest on the ledge for stacking. Stacking the units one atop the other allows the drain of an upper unit to dispense water
10 to a lower unit for easier removal.

[0036] The cooler can be equipped with a base member that has a sidewall with an internal ledge thereon for receiving a stackable unit. The sidewall also has upper and lower portions with the upper portion overhanging
15 the lower portion. Wheels are supported on a bottom wall making the cooler mobile for easy positioning on a merchandise floor.

[0037] The panels can have curved edges for aesthetic appeal. The ledges hold the beverage containers
20 at an angle for ease of removal and appearance. The drain may be a valve or faucet to control water flow to facilitate draining the water into a pail or other receptacle.

[0038] It can also be appreciated that another
25 embodiment of a cooler comprises a bottom tub having a bottom panel, opposed front and rear tub panels attached to the bottom panel and opposed left and right end panels attached to the bottom panel and to the front and rear tub panels. The left and right end panels extend upward from
30 the bottom panel to an elevation above the front and rear panels. The left and right end panels each have opposed

side edges extending upward and outward away from the front and rear tub panels. The left and right end panels extend the tub upward above the front and rear tub panels.

[0039] A front connecting panel is attached to a front edge of the left end panel and a front edge of the right end panel. A front bridging panel has end portions attached to the left and right end panels and has side edges attached to the front connecting panel and the front tub panel. A rear connecting panel is attached to a rear edge of the left end panel and a rear edge of the right end panel. A rear bridging panel has end portions attached to the left and right end panels and has side edges attached to the rear connecting panel and the rear tub panel. The panels may be insulating panels that help keep the beverages cold.

[0040] The cooler also has a top tub that is identical to the bottom tub and is attached to the bottom tub. A drain is positioned to drain the top tub into the bottom tub so that water from melting ice cascades from an upper tub down into a lower tub.

[0041] While the invention has been described with particular reference to the preferred embodiments, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements of the preferred embodiments without departing from invention. For example, it is contemplated that the cooler units are interchangeable but graphics can be added for product identification which would render units unique and not interchangeable after graphics are applied.

[0042] As is evident from the foregoing description, certain aspects of the invention are not

limited to the particular details of the examples
illustrated, and it is therefore contemplated that other
modifications and applications will occur to those skilled
in the art. For example, the tub may be of configurations
5 other than the rectangular bottomed configuration
described. It is accordingly intended that the claims
shall cover all such modifications and applications as do
not depart from the true spirit and scope of the invention.